

Notice of Allowability

Application No.

09/933,164

Examiner

Barry Choobin

Applicant(s)

ITO ET AL.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 11/28/05.
2. ☒ The allowed claim(s) is/are 2-26, 28-35 and 37-38(1-35).
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☒ Interview Summary (PTO-413), Paper No./Mail Date 12/9/05.
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

DETAILED ACTION

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Mr. Brundidge on 12/9/05.

The application has been amended as follows: in claims, please cancel claim 36.

Terminal Disclaimer

2. The terminal disclaimer filed on 11/28/2005 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of US Application 10/387,433 has been reviewed and is accepted. The terminal disclaimer has been recorded.

3. The following is an examiner's statement of reasons for allowance: as to independent claim 2, the closest prior art of Yamaguchi alone or in combination with other prior art fails to disclose an object detection method as recited in independent claim 2. In particular the key distinction between the closest prior art of Yamaguchi and the instant claimed invention is that the closest prior art do not rely upon registering plurality of images which are reference background sequential images and the step of comparing is subtraction processing between said image from said imaging device and

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said corresponding one of said reference background sequential images, in combination with other elements of independent claim 2.

As to independent claim 14, the closest prior art of Yamaguchi alone or in combination with other prior art fails to disclose an object detection method as recited in independent claim 14. In particular the key distinction between the closest prior art of Yamaguchi and the instant claimed invention is that the closest prior art do not rely upon imaging a plurality of different areas in the predetermined monitor area at a predetermined time by the imaging device in accordance with a predetermined scanning pattern, and registering respective reference background sequential images corresponding to said different areas in a storage device; at a different time from said predetermined time, imaging said predetermined monitor area by said imaging device substantially in accordance with said predetermined scanning pattern in synchronism with the operation of reading said registered reference background sequential images from the storage device, in combination with other elements of independent claim 14.

As to independent claim 28, the closest prior art of Yamaguchi alone or in combination with other prior art fails to disclose an object detection method as recited in independent claim 28. In particular the key distinction between the closest prior art of Yamaguchi and the instant claimed invention is that the closest prior art do not rely upon frame images having no image of said object to be detected are reference background sequential images and said comparing including subjecting said image from said imaging device and said corresponding image having no image of said object to be

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detected to subtraction processing, in combination with other elements of independent claim 28.

As to independent claim 37, the closest prior art of Yamaguchi alone or in combination with other prior art fails to disclose an object detection method as recited in independent claim 37. In particular the key distinction between the closest prior art of Yamaguchi and the instant claimed invention is that the closest prior art do not rely upon storing in said memory a plurality of images having different visual fields from said imaging device which images said predetermined monitor area at different visual fields, read out of said memory a stored image which corresponds to an image output from said imaging device, compare said input image with said image read out of said memory and perform object detection processing based on said comparison, in combination with other elements of independent claim 37.

As to independent claims 33-35, the closest prior art of Yamaguchi alone or in combination with other prior art fails to disclose an object detection method as recited in independent claims 33-35. In particular the key distinction between the closest prior art of Yamaguchi and the instant claimed invention is that the closest prior art do not rely upon an image from said imaging device imaging said predetermined monitor area having no object to be detected is recorded in said memory beforehand as a reference background image of reference background sequential images; an image from the imaging device imaging the predetermined monitor area in accordance with a predetermined scanning pattern is sequentially inputted to the processing unit; a reference background image is read out of said reference background sequential

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images from the image memory in synchronism with picking up the input frame images; and a difference in a pixel value between the input image and the read reference background image is calculated for each pixel, and an area associated with a Large difference value is detected as an object., in combination with other elements of independent claims 33-35.

Accordingly, claims 2-26, 28-35 and 37-38 are allowed (renumbered as 1-35)

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

CONTACT INFORMATION

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Barry Choobin whose telephone number is 571-272-7447. The examiner can normally be reached on M-F 7:30 AM to 18:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, WU JINGGE can be reached on 571-272-7429. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Barry Choobin
12/09/05